

A Digital Full-Text Cancer and Genetics System to Enhance Patient Care

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GOALS AND OBJECTIVES

Georgetown recently designed a prototype digital full-text system to provide clinicians and researchers with electronically transmitted journal articles that include illustrations. The system enables health practitioners to quickly search a database and retrieve full text articles with the touch of a few keys. It includes new technical methods of storing, transmitting, and delivering documents electronically using a small test base in cancer and genetics. The project goals are to accelerate the library's ability to deliver full-text documents in the clinical setting and to improve knowledge management and library services by using advanced technologies. The objectives are: (1) Design and maintain a digital full-text database of articles with illustrations; (2) Develop, test and modify the storage/retrieval system and transmission technology; (3) Provide users with access to the full-text system and evaluate its usefulness and applicability.

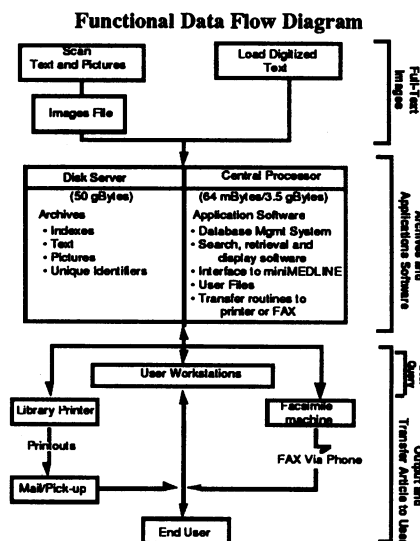
By accessing and retrieving their own articles health-practitioners will satisfy their need for relevant literature. If doctors can select the literature they want to read directly from a workstation, they can accelerate and improve their ability to deliver quality patient care. The self-service aspects of document delivery are enhancing the library's ability to provide more efficient services.

SCENARIO, FUNCTIONS AND DESIGN

The system functions as described in the following scenario: Imagine for a moment, a Georgetown physician, student or researcher at a workstation searching for literature on genetic implications in breast cancer. One of the first steps is to connect to the Library's Knowledge Network, access the miniMEDLINE System and conduct a bibliographic search for article references and abstracts on the topic. After viewing the retrieved bibliography, the user can request delivery of full-text articles by selecting the desired items. They can signal the database of stored documents to determine if the article is available. Assuming that the document is found in the image archives on optical disk, it would be located automatically for printing or facsimile transfer to the user workstation. If the item is not in the collection, a message is sent to the library to locate and transmit the article. Essentially, by the touch of a few keys,

within minutes, the user will have the article in his/her hands directly at the patient care, teaching or research site where the need exists.

To make this scenario a reality, Georgetown developed the prototype in a laboratory environment. The functional data flow chart shown in Figure 1 provides a macroview of the system. The coordination required between the disk server where the archived images reside and the central processor are framed in a single box to emphasize interplay between systems. The search and retrieval including screen displays available to users will be presented.



SIGNIFICANCE

The implications of this project are profound in potentially changing the information paradigm in medicine and shaping document delivery for the future. A unique feature of the system is the ability to totally automate every step of document delivery -- from the initial bibliographic search at the user workstation to selection of full text articles and final transmission of documents to users. It is designed as another self service system that empowers clinicians and researchers to access information directly. Users can navigate easily through the various steps in a transparent manner, unaware of the underlying complexities of the technical process. It is the next logical wave of services that libraries can provide to eliminate manual tasks and accelerate delivery of informed patient care.